05-10-04



Docket No.: 384848011US

(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Peng et al.

Application No.: 10/765,802

Filed: January 26, 2004

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For: HIGH DENSITY SEMICONDUCTOR

MEMORY CELL AND MEMORY ARRAY USING A SINGLE TRANSISTOR AND HAVING VARIABLE GATE OXIDE

BREAKDOWN

Confirmation No.: 2492

Art Unit: 2818

Examiner: Not Yet Assigned

INFORMATION DISCLOSURE STATEMENT (IDS)

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is filed before the mailing date of a first Office Action on the merits as far as is known to the undersigned (37 CFR 1.97(b)(3)).

A summary/abstract translation of the non-English language references is enclosed.

A copy of only those references listed below is attached:

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Application No.: 10/765,802 Docket No.: 384848011US

For. Doc No.	Ctry	Patentee/Applicant	Publication Date	
61292295	JP	Fujitsu Ltd.	December 23, 1986	
0 295 935	EP	Advanced Micro Devices,	December 21, 1988	

Other Documents
WU, E.W. et al; Voltage-Dependent Voltage-Acceleration of Oxide
SUNE, JORDI et al; Post Soft Breakdown Conduction in SiO2 Gate
DeGRAAF, C., et al, A Novel High-Density Low-Cost Diode
RASRAS, MAHMOUD et al; Substrate Hole Current Origin After Oxide
LOMBARDO, S. et al; Softening of Breakdown in Ultra-Thin Gate Oxide
MIRANDA, ENRIQUE et al; Analytic Modeling of Leakage Current

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 50-0665, under Order No. 384848011US.

Dated:

Respectfully submitted,

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PTO/SB/08a/b (08-03)

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Substitute for form 1449A/B/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 3

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	Complete if Known					
Application Number	10/765,802-Conf. #2492					
Filing Date	January 26, 2004					
First Named Inventor	Jack Z. Peng					
Art Unit	2818					
Examiner Name	Not Yet Assigned					
Attorney Docket Number	384848011US					

	U.S. PATENT DOCUMENTS						
Examin er Initials*	Cite No. ¹	Document Number Number-Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant		
muais	110.				Figures Appear		
		US-3,634,929		YOSHIDA ET AL.			
		US-4,322,822		ROGER KING MC PHERSON			
		US-4,488,262		DOMINIQUE BASIRE			
		US-4,490,900		TE-LONG CHIU			
-		US-4,502,208		ROGER K. MC PHERSON			
İ		US-4,507,757		DAVID J. MC ELROY			
į		US-4,543,594		AMR M. MOHSEN			
		US-4,546,273		FAZIL I. OSMAN			
		US-4,599,705		SCOTT HOLMBERG			
		US-4,613,886		RONALD J. C. CHWANG			
		US-4,677,742		ROBERT R. JOHNSON			
		US-4,794,562		HIDEO KATO			
		US-4,823,181		AMR M. MOHSEN			
		US-4,876,220		AMR M. MOHSEN			
		US-4,899,205	02-06-1990	ESMAT Z. HAMDY			
ĺ	·	US-4,943,538	07-24-1990	AMR M. MOHSEN			
		US-4,962,342	10-09-1990	CARVER A. MEAD			
		US-5,138,410	08-11-1992	MASATAKA TAKEBUCHI			
		US-5,150,179	09-22-1992	MANZUR GILL			
		US-5,303,185	04-12-1994	EMANUEL HAZANI			
		US-5,304,871	04-19-1994	KUTHANUR R. DHARMARAJAN			
		US-5,323,342	06-21-1994	TOSHIO WADA			
		US-5,412,244		ESMAT Z. HAMDY			
İ		US-5,477,499		MICHAEL A. VAN BUSKIRK			
		US-5,496,756		UMESH SHARMA			
		US-5,576,568		VIKRAM KOWSHIK	, ,		
		US-5,578,848		DIM-LEE KWONG			
		US-5,586,270		MICHAEL J. ROTIER			
		US-5,587,603		VIKRAM KOWSHIK			
		US-5,600,265		ABBAS EL GAMAL			
		US-5,675,541		BENOIT LETERRIER			
		US-5,675,547		SHINICHI KOGA			
İ		US-5,745,417		SHINICHI KOBAYASHI			
		US-5,825,200		PAIGE A. KOLZE			
		US-5,825,201		PAIGE A. KOLZE			
		US-5,880,512		KATHRYN E. GORDON			
	,	US-5,909,049	06-01-1999				
		US-5,986,931		JOHN M. CAYWOOD			
		US-5,986,939		KOUICHI YAMADA			
		US-6,016,268		EUGENE ROBERT WORLEY			
		US-6,031,761		ANDREA GHILARDELLI			
		US-6,034,893		SUNIL D. MEHTA			
		US-6,040,968		CHARVAKA DUVVURY	 		
		US-6,064,595		STEWART G. LOGIE			
		US-6,084,428		PAIGE A. KOLZE	<u> </u>		
		US-6,097,077		KATHRYN E. GORDON			

Examiner	 Date	
Signature	Considered	

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Sut	ostitute for form 1449A/B/PT	0		Complete if Known		
				Application Number	10/765,802-Conf. #2492	
l IN	NFORMATION	1 DI	SCLOSURE	Filing Date	January 26, 2004	
l s	TATEMENT E	3Y /	APPLICANT	First Named Inventor	Jack Z. Peng	
				Art Unit	2818	
	(Use as many sh	eets as	necessary)	Examiner Name	Not Yet Assigned	
Sheet	heet 2 of 3		Attorney Docket Number	384848011US		

				
L	US-6,157,568	12-05-2000	CHRISTOPHER O. SCHMIDT	
	US-6,166,954	12-26-2000	GEEING-CHUAN CHERN	
	US-6,214,666	04-10-2001	SUNIL D. MEHTA	
	US-6,215,140	04-10-2001	HANS REISINGER	
	US-6,218,274	04-17-2001	HIROSHI KOMATSU	
	US-6,232,631	05-15-2001	CHRISTOPHER O. SCHMIDT	
	US-6,249,809	06-19-2001	WILLIAM L. BRO	
	US-6,282,123	08-28-2001	SUNIL D. MEHTA	
	US-6,294,809	09-25-2001	STEWART G. LOGIE	
	US-6,297,103	10-02-2001	KIE AHN	
	US-6,304,666	10-16-2001	WILLIAM L. WARREN	
	US-6,351,428	01-10-2002	LEONARD FORBES	
	US-6,421,293	03-07-2002	PHILIPPE CANDELIER	
	US-6,431,456	08-13-2002	HIROTAKA NISHIZAWA	
	US-6,456,535	09-24-2002	LEONARD FORBES	
	US-6,556,481	04-29-2003	FU-CHANG HSU	
	US-2001/0003374	06-14-2001	Marcel Bohmer	
				•

		FOREI	GN PATENT	DOCUMENTS		
Examiner Initials*	Cite No.1	Foreign Patent Document Country Code ³ -Number ⁴ -Kind Code ⁵ (<i>if known</i>)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	
	-	JP-61292295	12-23-1986	Fujitsu Ltd.	•	
		EP-0 295 935	12-21-1988	Advanced Micro Devices, Inc.		

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. **CITE NO.: Those patent(s) or publication(s) which are marked with an double asterisk (**) next to the Cite No. are not supplied because they were previously cited by or submitted to the Office in a prior application relied upon in this application for an earlier filing date under 35 U.S.C. 120. ¹Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

	NON PATENT LITERATURE DOCUMENTS				
	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²		
-		WU, E.W. et al; Voltage-Dependent Voltage-Acceleration of Oxide Breakdown for Ultra-Thin Oxides; IEEE, 2000.			
	·	SUNE, JORDI et al; Post Soft Breakdown Conduction in SiO2 Gate Oxides; IEEE, 2000.			
		DeGRAAF, C., et al, A Novel High-Density Low-Cost Diode Programmable Read Only Memory, IEEE, 1996.			
		RASRAS, MAHMOUD et al; Substrate Hole Current Origin After Oxide Breakdown; IEEE, 2000.			
		LOMBARDO, S. et al; Softening of Breakdown in Ultra-Thin Gate Oxide nMOSFET's at Low Inversion Layer Density; 39th Annual International Reliability Physics Symposium; Orlando, FL 2001.			

Examiner	Date	
Signature	 Considered	

PTO/SB/08a/b (08-03)
Approved for use through 07/31/2006. OMB 0651-0031
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Sheet	Sheet 3 of 3		Attorney Docket Number	384848011US		

MIRANDA, ENRIQUE et al; Analytic Modeling of Leakage Current Through Multiple Breakdown Paths in SiO2 Films; 39th Annual International Reliability Physics Symposium; Orlando, FL 2001.	

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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